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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,165	09/04/2003	Deryck J. Williams	12557-021001	5413
26161 7590 03/21/2007 FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER PAK, JOHN D	
			ART UNIT	PAPER NUMBER
			1616	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/21/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/655,165

Applicant(s)

WILLIAMS ET AL.

Examiner

JOHN PAK

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-12,15-31,34-42 and 45-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-12,15-31,34-42 and 45-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This Office action is in reply to applicant's response of 12/26/2006.

Claims 1, 4-12, 15-31, 34-42 and 45-74 are pending in this application. They will be examined herein to the extent that they read on the elected subject matter of record.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 4-12, 15-20, 30-31, 34-42, 45-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 1 and 31 have been amended by applicant to recite the following feature: R_2 = a C_{15-19} substituted or unsubstituted carbon chain having single bonds between carbons except for [features which were originally disclosed]. The underlined subject matter constitutes new matter, which fails to find adequate descriptive support from the originally filed disclosure.

The active ingredients now have a new formula. The new formula requires R_2 to be a C_{15-19} substituted or unsubstituted carbon chain "having single bonds between carbons" except for the specific exceptions provided. The non-single bond(s) in the

C₁₅₋₁₉ substituted or unsubstituted carbon chain can only be (1) a double bond between the 9th and 10th carbons¹, and (2) double or triple bond between the 12th and 13th carbons. In effect, applicant's amendment has created a new subgenus by deleting from the original claims compounds that have double or triple bonds at other places in the C₁₅₋₁₉ substituted or unsubstituted carbon chain.

This is problematic because such subject matter was not disclosed in the originally filed disclosure. Applicant states in the reply filed on 12/26/2006, "Support for this amendment is found in the working examples, all of which relate to compounds in which the C₁₅₋₁₉ carbon chain has single bonds between carbons except at locations specified in independent claims." However, a subgenus is not necessarily implicitly described by a genus encompassing it and species upon which it reads. In re Smith, 173 USPQ 679, 683 (CCPA 1972). Descriptive support must be decided on a case-by-case basis. Here, applicant's working examples only show a very limited number of species (five, the same five as claimed in independent claims 21 and 51), wherein they are all structurally related variations of straight chain oxygen-substituted/reacted octadecenoic (C₁₈, one double bond) acids. Therefore, from such homogenous examples of the same types of C₁₈ one double bond-containing acidic moieties, the presently claimed exclusionary feature, which excludes double bonds or triple bonds elsewhere, is not reasonably conveyed.

¹ All numbering of carbons follows applicant's convention of starting from the carbonyl carbon as C₁.

For these reasons, the claims must be rejected as lacking in adequate descriptive support.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4-12, 15-20, 30-31, 34-42, 45-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As discussed above, independent claims 1 and 31 have been amended by applicant to recite the following feature: $R_2 = \text{a } C_{15-19} \text{ substituted or unsubstituted carbon chain having } \underline{\text{single bonds between carbons except for [features which were originally disclosed]}}$. However, R_2 can be substituted anywhere in the chain by, for example cyclopropene, which contains a double bond between carbons. Applicant's amendment has introduced indefiniteness and internal inconsistency into the claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-6, 9-12, 15-16, 18-21, 23, 25, 31, 34-36, 39-42, 45-46, 48-51, 53, 55, 60, 62 stand rejected under 35 U.S.C. 102(e) as being anticipated by Zobel et al. (US 6,544,929) for the reasons of record.

Zobel et al. explicitly disclose a herbicidal composition that can contain (a) isoxaflutole, (b) glyphosate/glufosinate, and (c)(v) ester of glycol, such as glycerol ricinolate² (see column 1, lines 45-55; column 2, lines 7-9). Diluent, carrier, 0.05-10 wt% surface active agent, and penetrating agents are disclosed (column 2, lines 47-67; column 3, lines 60-61). Aqueous and liquid formulations are disclosed, including a formulation that contains surfactant, water miscible solvent and water (column 3, lines 28-41; column 4, lines 18-38, in particular lines 17-22). The herbicidal composition is applied to control weeds in a crop locus, i.e. after planting (column 5, lines 25-27).

Although Zobel et al. do not expressly disclose nematicidal activity of glycerol ricinolate, its agricultural formulation and use are explicitly taught. Application to the field, i.e. plants and soil, is taught since herbicidal application to a crop locus is taught. It is the Examiner's position that since the same exact compound is being applied to the same exact substrate where nematodes are found, the same exact nematicidal activity as applicant's claimed effect would be obtained.

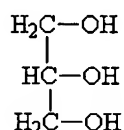
Claims 5-6, 10-12, 35-36 and 40-42 are included in this ground of rejection because the language of those claims does not actually require R₁ and/or R₂ to have a

C₁₋₂ substituent on the main carbon chain of R₁ and/or R₂. Mere further description of one of many alternatives does not constitute a required claim feature.

Claims 23 and 53 require a permeation enhancer. It is the Examiner's position that Zobel's penetrating agent would have the same function as applicant's permeation enhancer.

The claims are thereby anticipated.

Applicant argues in the response of 12/26/2006 that glycerol ricinolate would not fall within the formula of the fatty acid ester of the present claims, because "glycerol ricinolate would have three ricinolate chains" (emphases added). The Examiner cannot agree. Glycerol is structured as shown below:



One, two or three of the H in the hydroxy groups can be esterified. Hence, glycerol esters with more than one ester group are called diesters or triesters (e.g. "triglycerides"). Because Zobel et al. did not specify diesters or triesters, one skilled in the art would have recognized their esters as mono esters, i.e. glycerol wherein only one H in the hydroxy group contains the moiety derived from ricinoleic acid.

² It is noted that glycerol ricinolate is an ester of ricinoleic acid (also known as ricinolic acid) wherein in applicant's formula convention, R₁ is the glycerol moiety and the C(O)-R₂ is the ricinoleic acid moiety.

For these reasons, Zobel's teachings are still applicable with respect to the present claims and this ground of rejection must be maintained.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-12, 15-16, 18-23, 25-31, 34-42, 45-46, 48-53 and 55-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 59-27802 in view of Farm Chemicals Handbook '98.

JP 59-27802 discloses a non-toxic agrochemical composition for reducing germination of ears of crop plants such as wheat and rice without causing phytotoxicity (full document cited, see JPAB English abstract JP359027802A). The active component is one or more higher fatty acid alkyl esters and higher fatty acid alkenyl esters, wherein spray application is disclosed (full document cited, see HCAPLUS English abstract 1984:419087). Alkyl esters of 12-hydroxy-9(Z)-octadecenoic acid, i.e. *ricinoleic acid*, are disclosed (see page 3, substances numbered 76-81; see also HCAPLUS English abstract 1984:419087). Use in the form of a diluted liquid formulation is disclosed (see JPAB English abstract JP359027802A).

Farm Chemicals Handbook '98 discloses oxamyl to be a known insecticide, nematocide and acaricide (page C290, left column). This secondary reference is cited to establish the fact that the additional active agent of applicant's claims 27 and 57 is known for the use for which it is being claimed.

Although JP 59-27802 does not expressly disclose nematocidal activity of esters of 12-hydroxy-9(Z)-octadecenoic acid, i.e. ricinoleic acid, the reference nonetheless teaches their agricultural formulation and use. Application to the field, i.e. plants and soil, is taught since non-phytotoxic application is taught. It is the Examiner's position that since the same exact compound is being applied to the same exact substrate where nematodes are found, the same exact nematocidal activity as applicant's claimed effect would be obtained.

Inclusion of an aqueous surfactant, though apparently not expressly disclosed in JP 59-27802, would have been obvious to the ordinary skilled artisan, who would have been motivated to formulate the fatty esters with a common and convenient agricultural carrier such as water with sufficient surface active agents to ensure adequate admixture and uniform application.

Claims 5-6, 10-12, 35-36 and 40-42 are included in this ground of rejection because the language of those claims does not actually require R_1 and/or R_2 to have a C_{1-2} substituent on the main carbon chain of R_1 and/or R_2 . Mere further description of one of many alternatives does not constitute a required claim feature.

Claim 22 and 52 require specific commercial surfactants. For example, Makon 10 is an ethoxylated alkylphenol, Brij 35, Brij 97 and Tergitol TMN 6 are ethoxylated alcohols, Dowfax 3B2 is a diphenyl sulfonate. One having ordinary skill in the agrochemical art would have been motivated to utilize such commercially available surface active agents to formulate fatty acid esters in water in order to conveniently and uniformly apply the formulation to substrates where nematode control is needed.

Claims 23 and 53 require a permeation enhancer. Use of such ancillary agent for the purpose of improving delivery of the active agent would have been obvious. The motivation to do so arises from the advantage of obtaining improved permeation or penetration of the active esters of 12-hydroxy-9(Z)-octadecenoic acid.

Claims 25-26 and 55-56 require a cosolvent such as isopropanol. Given the lipid-like nature of esters of 12-hydroxy-9(Z)-octadecenoic acid, additional formulation agents such as a cosolvent to better solvate or formulate the esters would have been plainly suggested. Isopropanol is a universal solvent and widely used in myriad applications, including agricultural applications. Its use would therefore have been fairly suggested.

Claims 27 and 57 require the further use of an additional active agent such as oxamyl. The cited secondary reference clearly teaches that oxamyl has well known, broad pesticidal properties. One having ordinary skill in the art would have been

motivated to utilize such a versatile and active pesticide such as oxamyl in order to provide protection of crops against invertebrate pests.

Claims 28-29 and 58-59 require an antioxidant such as BHA and BHT. Such ingredients are notoriously well known antioxidants, and their use would have been obvious from the knowledge of fatty acid chemistry. The unsaturated carbon chain in the fatty acid moiety is subject to oxidation, so use of known antioxidants would have been fairly suggested when using an unsaturated fatty acid derivative such as esters of 12-hydroxy-9(Z)-octadecenoic acid.

Claim 30 requires the use of at least two different compounds of the elected formula. JP 59-27802 teaches the use of one or more esters of fatty acids (see HCAPLUS abstract 1984:419087), so such two different compounds are suggested.

Claims 60-66 recite various application methods, such as applying to plants or soils, soil before planting, soil after planting, applying to plant roots or seeds, drip system, drench system. Given that the esters of 12-hydroxy-9(Z)-octadecenoic acid are taught to have beneficial plant growth regulating activity, its use at various stages of agricultural production and application to various types of plant or soil parts would have been obvious, particularly in combination with a beneficial pesticide such as oxamyl. Application to soil via a drip or drench system would have been a matter of routine optimization for the ordinary skilled artisan in this field, depending on the exigencies of the application needs and field condition.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention and the claimed invention as a whole have been fairly disclosed or suggested by the teachings of the cited references.

Applicant's arguments of 12/26/2006 have been given due consideration but they were deemed unpersuasive. Applicant argues that JP 59-27802 does not provide motivation to add a surfactant to its agrochemical composition, and the secondary reference does not provide any teaching that a surfactant should be added to a fatty acid ester containing composition. The Examiner cannot agree. JPAB English abstract JP359027802A discloses that the fatty acid esters of JP 59-27802 are applied to plants such as rice, wheat and barely, and HCAPLUS abstract 1984:419087 of JP 59-27802 discloses spray application. The ordinary skilled artisan would thus have been motivated to utilize an aqueous surfactant, because sprays to crop plants are typically aqueous and aqueous surfactants would function to improve the surface active properties of the insoluble fatty esters in aqueous sprays.

For these reasons, the cited prior art teachings are still applicable with respect to the present claims and this ground of rejection must be maintained.

Rejection of claims 1, 4-6, 9-12, 15, 17-20, 31, 34-36, 39-42, 45, 47-50 under 35 U.S.C. 103(a) as being unpatentable over Tsuboi et al. is hereby withdrawn in view of applicant's claim amendments.

Rejection of claims 1, 4-12, 15, 18-20, 31, 34-42, 45, 48-50, 60-66 under 35 U.S.C. 103(a) as being unpatentable over JP 62-99348 is hereby withdrawn in view of applicant's amendments.

Claims 1, 4-12, 15-31, 33-42, 45-74 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-47 of U.S. Patent No. 6,887,900. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

Patented claims 1-47 are directed to substantially the same subject matter as applicant's claims, with minor overlap in scope in substituent recitations. For example, the esters of the patented claims are all readable on instant claims. The esters in the patented claims have the same activity and said esters are formulated with the same excipients. Therefore, one of ordinary skill in the art would have recognized the instant invention as an obvious variation of the invention patented in claims 1-47 of U.S. Patent No. 6,887,900, because use of known commercial surfactants or known additional

active insecticide or nematicide would have been obvious for the benefit of providing improved formulation or pesticidal properties.

Applicant's only remark relative to this ground of rejection is that a terminal disclaimer will be filed upon notification of allowable claims. Applicant is advised to file the disclaimer early in prosecution to avoid any further delay, especially when the case is after-final. If the case is in condition for allowance but for the terminal disclaimer(s), another Office action may have to be issued to account for the remaining grounds of obviousness type double patenting rejection. This rejection cannot be withdrawn in the absence of the terminal disclaimer.

Claims 1, 4-12, 15-31, 34-42, 45-74 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21, 24-55, 61-65 of U.S. Patent No. 6,903,052 in view of Farm Chemicals Handbook '98. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

Patented claims are directed to substantially the same subject matter as applicant's claims, with minor overlap in scope in substituent recitations. For example, the esters of the patented claims are all readable on instant claims. The esters in the patented claims have the same activity and said esters are formulated with the same excipients.

Farm Chemicals Handbook '98 discloses oxamyl to be a known insecticide, nematocide and acaricide (page C290, left column). This secondary reference is cited to establish the fact that the additional active agent of applicant's claim 27 is known for the use for which it is being claimed.

Therefore, one of ordinary skill in the art would have recognized the instant invention as an obvious variation of the invention patented in claims 1-21, 24-55, 61-65 of U.S. Patent No. 6,903,052, because use of known commercial surfactants or known additional active insecticide or nematocide would have been obvious for the benefit of providing improved formulation or pesticidal properties.

Applicant's only remark relative to this ground of rejection is that a terminal disclaimer will be filed upon notification of allowable claims. Applicant is advised to file the disclaimer early in prosecution to avoid any further delay, especially when the case is after-final. If the case is in condition for allowance but for the terminal disclaimer(s), another Office action may have to be issued to account for the remaining grounds of obviousness type double patenting rejection. This rejection cannot be withdrawn in the absence of the terminal disclaimer.

For the foregoing reasons, all claims must be rejected again.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to JOHN PAK whose telephone number is **(571)272-0620**. The Examiner can normally be reached on Monday to Friday from 8 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's SPE, Johann Richter, can be reached on **(571)272-0646**.

The fax phone number for the organization where this application or proceeding is assigned is **(571)273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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